

## POINTS TO MAKE IN DISCUSSING A PROGRAM OF SCREW-WORM ERADICATION

- I. Based on past research and particularly the successful eradication of the screw-worm on the Island of Curacao our research personnel who carried out this program are fully confident that it will be possible to eradicate the screw-worm from the State of Florida and the Southeast.
- II. It is emphasized, however, that the achievement of this objective will cost considerable sums of money and that the eradication program will have to be well planned, adequate manpower and facilities will have to be provided, and the entire program will have to be executed in an efficient manner.
- III. It will be necessary to have the full cooperation of federal and state agencies involved and the cooperation and support of the live-stock grower will be essential.
- IV. An eradication program cannot be started overnight. Various phases of the program will have to be developed and put into operation by stages and the timing for the actual release of sterile males will be highly important. The following are the major features of the program that must be developed and the approximate period of time that may be involved in their development:
  - A. A complete report has to be prepared which outlines the types of facilities and equipment needed, the amount of material required for rearing the millions of flies and estimate of manpower requirements, and details of operational procedures that must be followed. We estimate that a period of two months will be required for the research







and control personnel immediately concerned to complete this report. Such a report will be essential in determining what contributions various cooperative agencies will make and to follow through necessary budgetary actions.

B. Funds for the conduct of the program will have to be provided by the cooperating agencies through their normal budgetary processes. This may require a period of several weeks to several months.

C. After funds for the program are appropriated, construction of the necessary insect rearing facilities will have to be started. A period of 3 or 4 months will probably be required to complete the plant facilities.

D. Qualified personnel will have to be found and an intensive study of screw-worm population trends throughout the eradication area will have to begin within 3 or 4 months after funds become available. It is on the basis of reports of screw-worm abundance that a determination will be made as to the number of sterile males that will be released when the actual eradication program begins. These personnel will also work closely with all livestock growers to enlist their aid in keeping records and to encourage their full support in treating every possible screw-worm case so as to reduce the over-all screw-worm population to the lowest degree possible.

E. Arrangements will have to be made to obtain the services of the 25 or more aircraft and pilots that will be needed to release the







insects. The planes will have to be provided with suitable equipment and the pilots will have to be trained to carry out the release program.

F. A large scale operational test should be carried out to be certain that the equipment functions properly and to gain experience on the details of developing and executing the release program.

G. After completion of the facilities for rearing the insects and for distributing them, the actual rearing of the insects will have to begin. This will mean the prior procurement of the vast amounts of food that will be required to rear the insects. It will be approximately one month after full scale rearing begins before the first fly releases can be made.

H. It is the feeling of research personnel that the actual release of the insects should begin during the month of August or September. Although the natural fly population is near the peak at this time of the year, they soon begin to decrease because of fall and winter weather. It is our thinking that the release of sterile flies will be most effective if made during the period that nature is reducing the natural production of screw-worms. In the spring the new season's crop of flies are on the increase. It will be more difficult to slow down the increase during this time of year than it will be in the fall.



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V. Once the eradication program gets under way it must continue uninterrupted until the insect has been eradicated. Our estimate is that this will require a period of two years. The insects must be reared continuously in the numbers required, the release of sterile insects must be made at the proper time each week, the screw-worm detection personnel must keep close watch of screw-worm population trends in various parts of the area in order that the number of sterile insects released can be increased or decreased depending on their findings, and livestock growers must continue to cooperate to their fullest extent by observing their animals carefully and treating all susceptible wounds to prevent infestation and to treat infested animals to prevent development of screw-worms. This will be highly important for there may be a tendency, if the screw-worm population decreases, for growers to discontinue observation of animals closely. This could offset the gains made by an over-all reduction through the release of sterile insects.

VI. If the government and state agencies and the livestock growers have agreed that a program should be undertaken, the actual program should be carried out essentially as follows:

July 1, 1957 - Funds should be made available.

July through September - Plans for rearing facilities should be completed. Personnel should be

provided for and arrangements should be made for the purchase of special equipment.







October through May - The insect rearing plant should be constructed and completed during this period and all equipment needed should be delivered and installed.

January through March - Survey and screw-worm detection personnel should begin their work.

July 1, 1958 - Actual rearing of insects should begin and all personnel required for this operation should be on duty. All aircraft should be made in readiness

August 1, 1958 - Actual release of insects should begin.

VII. The details of operation will be essentially as follows: The insects will be raised at the rate of 50 million per week. After the screw-worm larvae complete their development they will be exposed to Cobalt 60 irradiation for the required dosage. They will be placed in suitable containers and held in these containers until the flies emerge. After the emerged flies are about 24 hours old they will be turned over to the aircraft pilots who will distribute the flies throughout the eradication zone. The flies will be released at the average rate of 400 flies per square mile per week. Fly releases will be made in each area every 5 days. The aircraft will release flies at intervals of 2 miles at each release period. The actual number released in each zone will probably vary from 200 to 600 but releases will be made in every part of the eradication zone each 5 day period. These releases will be made continuously for an estimated period of 2 years at which time it is expected that eradication will



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be achieved. The eradication zone will likely be in an area south of a line running in a northeasterly direction beginning at point \_\_\_\_\_ on the west coast of Florida to \_\_\_\_\_ on the east coast of Georgia. On the basis of approximately 10 years of observations we could expect winter weather to kill all screw-worms north of this line. However, in some years screw-worms have overwintered north of this line. We feel that we could expect in a two-year program that all insects north of the eradication line will be killed out due to cold weather. If, however, this is not the case and eradication has been essentially achieved south of the line, consideration might be given to extending the area northward for 100 miles or more to assure eradication in that zone.

- VIII. The exact cost of the operation has not been determined. However, our best estimate at the present time is that it will require approximately one million dollars for the plant facilities and equipment. The cost of conducting the eradication program is estimated at 3 million dollars a year or 6 million for the two years giving a grand total of 7 million dollars to eradicate the insect from the State of Florida and other Southeastern States.



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our best estimate at the present time is that it will require approximately one million dollars for the plant facilities and equipment. The cost of conducting the eradication program is estimated at 3 million dollars a year or 6 million for the two years giving a grand total of 7 million dollars to eradicate the insect from the State of Florida and other Southern States.